

Flight Report – SEAC4RS ER-2, August 12, 2013 Science Flight 3

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Purpose of flight: 1) acquire remote sensing data over rosette in the Gulf of Mexico, 2) fly over AERONET stations, 3) remotely sense Birmingham plume, 4) sample UT/LS on return to Houston.

Pilot: Dean Neeley

Playbook topics: SE chemistry, remote sensing of aerosol in broken cloud field, air chemistry

Flight plan: Proceed up over Gulf executing a dip to 45 kft before rosette pattern over Gulf, execute rosette pattern in coordination with DC8, proceed NW over Gulf near Pensacola and fly over SEARCH-OLF AERONET station, proceed NE over SEARCH-Centreville2 AERONET station, continue NE over Huntsville, fly over Yorkville AERONET station, conduct section rosette in coordination with DC-8 over Birmingham plume, return to Houston with dips along the way.

Takeoff: 7:59 CDT (12:59 UT)

Duration: 7.9 hours

Notes:

ER-2 received excellent takeoff clearance and was allowed to directly climb to 17 kft, then 65 kft, which is an unusual event. After collecting data during dip prior to first rosette over the Gulf, both ER-2 and DC-8 were well coordinated over first rosette in the Gulf. Mostly clear skies with some small low clouds were present over the first rosette. ER-2 flew over some small convection near the Florida coast before proceeding over AERONET sites, Huntsville, and the second rosette. The convection had not yet built up over this second rosette and the aircraft were well coordinated in this rosette pattern. CPL measured cirrus over much of the second rosette with some breaks in one of the rosette legs. One the way back to Houston, the ER-2 performed one dip but was unable to perform a second dip because of convection.

Aircraft and instruments: Instruments were able to transmit data to the ground in real-time. eMAS did not operate during flight due to problem with digitizer. All other instruments appear to have worked nominally as far as limited in-flight and quick-look analyses showed. ER-2 may have a minor maintenance issue with spoiler actuator that may require maintenance before next flight.

